



Attachment of Residential Deck Ledgers to the Ends of Metal Plate Connected Wood Floor Truss Systems – 60 psf Deck Live Load

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Structural Building Components Association (SBCA)

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Joist Span	≤ to 6'	6'-1" to 8'	8'-1" to 10'	10'-1" to 12'	12'-1" to 14'	14'-1" to 16'	16'-1" to 18'
Connection Details	On-center Spacing of Fasteners (in.) ⁴						
½" x 6" lag screw with 15/32", max., wood structural sheathing	12 ⁵	12 ⁵	12 ⁵	8 ⁶	8 ⁶	8 ⁶	Use bolted connection
½" diameter bolt with 15/32", max., wood structural sheathing	24	24	24	12 ⁵	12 ⁵	12 ⁵	12 ⁵

1. Ledgers shall be flashed in accordance with applicable building code requirements to prevent water from contacting the exposed wood structural sheathing and floor truss.
2. Snow load shall not be assumed to act concurrently with live load.
3. Ledgers must be 2x10 or 2x12 PPT or code-approved decay-resistant lumber with specific gravity, $G \geq 0.43$. Truss 2-ply 2x4 end verticals and key-blocks must have a $G \geq 0.42$.
4. Stagger lag screws and bolts as shown in [Detail 1.1](#).
5. Requires key-blocks at 24" o.c., maximum. Attach ledger to 2-ply end vertical of each truss with one (1) fastener and to each key-block with one (1) fastener. Refer to [Detail 1.3](#) for key-block construction and installation information.
6. Requires two (2) key-blocks at 8" o.c., maximum, between each truss. Attach ledger to 2-ply end vertical of each truss with one (1) fastener and to each key-block with one (1) fastener. Refer to [Detail 1.3](#) for key-block construction and installation information.

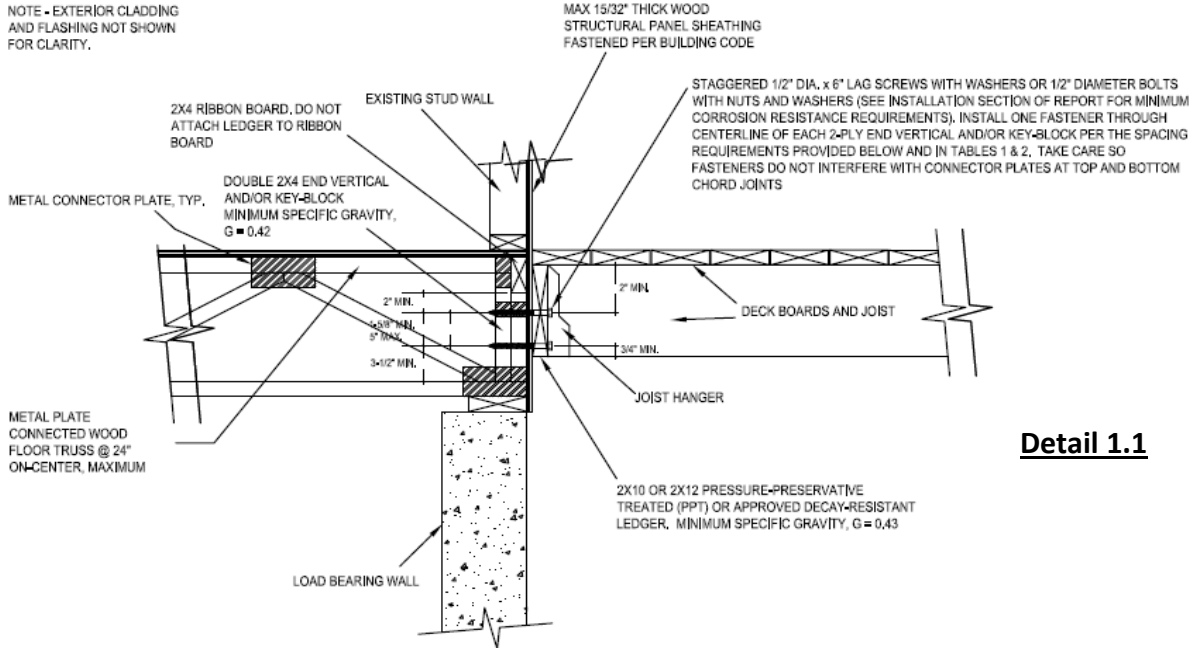
Table 1: Deck Ledger Connection to Ends of MPCW Floor Trusses Spaced 24" o.c., Max.^{1,2,3}
(Deck Live Load = 60 psf, Deck Dead Load = 10 psf, Snow Load ≤ 60 psf)

The seal on this design drawing indicates acceptance of professional engineering responsibility solely for the component(s) depicted. The design assumptions, loading conditions, suitability and use of this component for any particular building is the responsibility of the building designer or owner of the components, per *ANSI/TPI 1*. The responsibilities and duties of the component designer, component design engineer and component manufacturer shall be in accordance with the latest edition of *ANSI/TPI 1* Chapter 2 unless otherwise defined by a contract agreed upon by the parties involved.

DrJ Design Detail

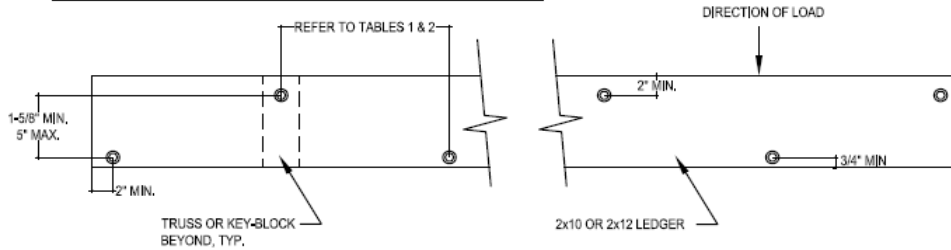
WALL SECTION

NOTE - EXTERIOR CLADDING AND FLASHING NOT SHOWN FOR CLARITY.



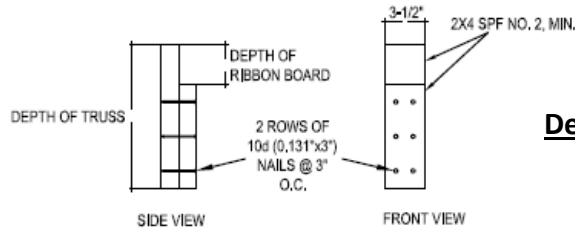
Detail 1.1

PLACEMENT OF LAG SCREWS AND BOLTS IN LEDGER



Detail 1.2

KEY-BLOCK DETAIL FOR LEDGER ATTACHED TO END OF TRUSSES



Detail 1.3

ATTACH TOP OF KEY-BLOCK TO INSIDE FACE OF RIBBON BOARD WITH 2 - 10d (0.131" x 3") THROUGH NAILS AND 2 - 10d TOE-NAILS. ATTACH BOTTOM OF KEY-BLOCK TO SILL PLATE WITH 4 - 10d TOE-NAILS

DrJ Design Detail

1. General Notes:

- 1.1. Ledger must be identified by the grade mark of, or certificate of inspection issued by, an approved lumber grading or inspection bureau or agency.
- 1.2. PPT material must be pressure treated with an approved process in accordance with American Wood Protection Association standards.

2. Fasteners

- 2.1. Lag screws and bolts must be installed according to 2012 NDS requirements:

- 2.1.1. ½" x 6" lag screws

- 2.1.1.1. Lead holes for the threaded portion must be $\frac{5}{16}$ ".

- 2.1.1.2. Clearance holes must be ½" and the same depth of penetration as the length of unthreaded shank.

- 2.1.2. ½"-diameter bolts:

- 2.1.2.1. Holes must be a minimum of $\frac{17}{32}$ " to a maximum of $\frac{9}{16}$ ".

- 2.2. All fasteners used with PPT wood must be hot-dip zinc-coated (ie, Galvanized steel, Stainless steel, Silicon bronze, Copper).
- 2.3. Fasteners must meet *ASTM A153*, Class D, for fasteners $\frac{3}{8}$ " diameter and smaller or Class C for fasteners with diameters over $\frac{3}{8}$ ".
- 2.4. Lag screws, bolts, nuts and washers are permitted to be mechanically deposited zinc-coated steel with coating weights

3. Hardware

- 3.1. All hardware (e.g., joist hangers, hold-down devise, etc.) must be galvanized or stainless steel.
- 3.2. Hardware hot-dipped prior to fabrication must meet *ASTM A653*, G-185 coating.
- 3.3. Hardware hot-dipped post fabrication must meet *ASTM A123*.
- 3.4. Hardware exposed to saltwater or located within 300' of a saltwater shoreline must be stainless steel grade 304 or 316.
- 3.5. Other coated or non-ferrous hardware must be approved by the authority having jurisdiction.